UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,613	04/22/2004	Eric L. Barsness	ROC920040124US1	7318

46797 7590 11/01/2006	EXAMINER	
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ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/829,613	BARSNESS ET AL.
	Examiner	Art Unit	
	Srirama Channavajjala	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-42 are pending in this application.

Drawings

2.   The Drawings filed on 4/22/2004 are <u>acceptable</u> for examination purpose.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims rejected under 35 U.S.C. 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

5.   The metes and bound of the computer implemented method steps of claim

1,20,39, are unclear. For example, In claim 1, the steps of the method do not actually

integrate the database, but generating metadata that could integrate the database. The

steps of "storing", "generating", "associating" are indefinite as they lack concrete active

limitations as to how the steps are to be accomplished. One of skill in the art would not

be able to determine what exactly must be done to accomplish the goal of the preamble.

It is unclear how the metadata associating with the column of the database table, and

how the associated measurement unit in database table related.

6.   The limitation of claim 2 do not appear to be a further method step and does not

appear to further limit the method of claim 1. It is unclear which "generation command

indicating the column of the database table and the measurement unit". Claim 1 recites

merely data having an associated measurement unit in database table".

7.   In claim 3, it is unclear what is meant by "determining ontological properties

describing cognitive qualities of the column of the database table". What is meant by

"cognitive qualities of the column of the database table?, and what is meant by

"generating ontological metadata"?

8.   The limitation of claim 4 are not directed to "associated measurement unit in a

database table as set forth in claim 1, but appears to be a limitation of "adding a

rounding factor to the units metadata....."Therefore, the step[s] of the claim do not meet

the goal of the preamble of the independent claim 1.

        Claims 2-5, 21-24, each depend from claim 1,20 and contain the same problem

and rejected in the above analysis.

9.   In claim 6,25,40, it is unclear what is meant by "determining whether the query

requires relating a first column and a second column having associated units

metadata...."What is the query? How is the "associated units metadata" related? , what

is "converting data contained in the first column....." The steps of "determining whether

the query requires", "determing, from the associated units metadata"..."converting data..." are indefinite as they lack concrete active limitations as to how the steps are to be accomplished. One of skill in the art would not be able to determine what exactly must be done to accomplish the goal of the preamble. It is unclear how the "determing, from the associated units metadata..."converting data..." related to database tables.

10.   The limitation of claim 7 do not appear to be a further process step and does not appear to further limit the method of claim 6 because claim 7 merely directed to "before converting, determing whether the first measurement unit can be converted into the second measurement unit". It is unclear how the "first measurement unit can be converted into the second measurement unit".

Claims 7-12, 26-31 each depend from claim 6, 25,40 and contain the same problem and rejected in the above analysis.

11.   In claim 13, 32, it is unclear what is meant by "determing whether the query includes a result field...", "determining whether a column in the database table corresponding to the result field...", if so, converting data..." What is the query? How is the converting data " related to first measurement unit and second measurement unit? The recited steps in claim 13,32 are indefinite as they lack concrete active limitations as to how the steps are to be accomplished. One of skill in the art would not be able to determine what exactly must be done to accomplish the goal of the preamble

Claims 14,33 depend from claim 13,32 are also rejected in the above analysis.

12.   In claim 15,34, it is unclear what is meant by "determing whether the query includes a result field.....", "determining whether a column in the database table.....", if so, modifying the result field having the first measurement unit....., "executing the query...." What is the query? How is "modifying the _result field_" related to first measurement and second measurement unit...? The recited steps in claim 15,34 are indefinite as they lack concrete active limitations as to how the steps are to be accomplished. One of skill in the art would not be able to determine what exactly must be done to accomplish the goal of the preamble.

Claims 16-19,35-38 depend from claims 15,34 are also rejected in the above analysis.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13.   **Claims 1-42 are rejected under 35 U.S.C. 101 because invention is directed to non-statutory subject matter.**

As set forth in MPEP 2106(II)A:

Identify and understand Any Practical Application Asserted for the Invention The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the <u>*practical application*</u> *for the claimed invention, i.e., why the applicant believes the claimed invention is useful.*

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a

computer-readable medium does not make the invention eligible for patenting.

For example, a claim directed to a word processing file stored on a disk may satisfy the

utility requirement of 35 U.S.C. 101 since the information stored may have some "real ·

world" value. However, the mere fact that the claim may satisfy the utility requirement of

35 U.S.C. 101 does not mean that a useful result is achieved under the practical

application requirement. The claimed invention as a whole must produce a "useful,

concrete and tangible" result to have a practical application.

14.   Regarding claim 1,20,39, 'a computer-implemented method for managing

storage of data having an associated measurement unit in a database table,

comprising:

        storing the data in a column of the database table, the column having a name;

        generating units metadata describing the measurement unit; and

        associating the units metadata with the column of the database table" is directed

to "abstract idea" because all of the elements in the claim 1,20,39,. would reasonably

be interpreted by one of ordinary skill in light of the disclosure page 14-16,18-23 as

software [merely algorithm], such that the method is software, per se , is "non-statutory

subject matter" [see Interim Guidelines page 55-57] and *claim 1,20,39* do not have

"practical application" because the "final result" by the claimed invention in the claim

1,20,39 elements particularly *"generating units metadata describing the*

measurement unit; and associating the units metadata with the column of the

database table" is not producing "useful, tangible and concrete" and therefore, claim

1,20,39 is a non-statutory subject matter [see Interim Guidelines page 55-57]. The

claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d

at 1601-02. Specifically State Street sets forth that the claimed invention must produce

a *"useful, concrete and tangible result."* The **Interim Guidelines for Examination**

of Patent Applications for Patent Subject Matter Eligibility states in section IV C. 2

b. (2) (on page 21 in the PDF format):

> The tangible requirement does not necessarily mean that a claim must either be
> tied to a particular machine or apparatus or must operate to change articles or
> materials to a different state or thing. However, the tangible requirement does
> require that the claim must recite more than a § 101 judicial exception, in that the
> process claim must set forth a practical application of that § 101 judicial
> exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ
> at 676-77 (invention ineligible because had "no substantial practical
> application.").

[If] Claim 1,20,39 have the result of producing results related to "generating units

metadata describing the measurement unit; and associating the units metadata with the

column of the database table" however the claim[s] do not specify [a]: satisfying proper

condition[s]; [b] that the result neither stored nor output is displayed to a user or

otherwise used in the real world.

The examiner reviewed the specification page 14-16,18-23, but was unable to

find a practical real-world use of the result (*generating units metadata describing the*

measurement unit; and associating the units metadata with the column of the

database table).

If the applicant is able to find one and inserts it into the claims provide the location

the element is found in the specification

At best, the steps of claim 1 appear to provide "associating the units metadata

with the column of the database table". This "associating the units" has no intrinsic

meaning, value, or usefulness. The results must be further manipulated or interpreted

by the user to be useful. Therefore, this method in claim 1,20,39 are not statutory. See

MPEP 2106: "For such subject matter to be statutory, the claimed process must be

limited to a practical application of the abstract idea or mathematical algorithm" See

Alappat, 33 F.3d 1543, 31 USPQ2d at 1556-57 (quoting Diamond v Diehr, 450 U.S at

192,209 USPQ at 10). See also Alappat 33 F.3d at 1569,31 USPQ2d at 1578-79

(Newman,J., concurring) ("unpatentability of the principle does not defeat patentability of

its practical applications") (citing O 'Reilly v Morse, 56 (15 How.) at 114-19). A claim is

limited to a practical application when the method, as claimed, produces a concrete,

tangible and useful result; i.e. the method recites a step or act of producing something

that is concrete, tangible and useful. See AT&T, 172 F.3d at 1358, 50 USPQ2d at

1452".

15.   Regarding claim 6,25,40, "A computer-implemented method for managing

execution of a query against data in one or more database tables, comprising:

determining whether the query requires relating a first column and a second

column having associated units metadata, the first and second columns being included

in the one or more database tables;

determining, from the associated units metadata, a first measurement unit for the

first column and a second measurement unit for the second column; and

converting data contained in the first column having the first measurement unit

into equivalent data having the second measurement unit" is directed to "abstract idea"

because all of the elements in the claim 6,25,40, would reasonably be interpreted by

one of ordinary skill in light of the disclosure page 14-16,18-23, page 26, 0090-0092,

page 27 as software [merely algorithm], such that the method is software, per se, is

"non-statutory subject matter" [see Interim Guidelines page 55-57] and *claim 6,25,40*

do not have "practical application" because the "final result" by the claimed invention in

the claim 6,25,40 elements particularly "*determining, from the associated units*

metadata, a first measurement unit for the first column and a second

measurement unit for the second column; and converting data contained in the

first column having the first measurement unit into equivalent data having the

second measurement unit" is not producing "useful, tangible and concrete" and

therefore, claim 6,25,40 is a non-statutory subject matter [see Interim Guidelines page

55-57]. The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74,

47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention

must produce a *"useful, concrete and tangible result."* The **Interim Guidelines for**

Examination of Patent Applications for Patent Subject Matter Eligibility states in

section IV C. 2 b. (2) (on page 21 in the PDF format):

> The tangible requirement does not necessarily mean that a claim must either be
> tied to a particular machine or apparatus or must operate to change articles or
> materials to a different state or thing. However, the tangible requirement does
> require that the claim must recite more than a § 101 judicial exception, in that the
> process claim must set forth a practical application of that § 101 judicial
> exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ
> at 676-77 (invention ineligible because had "no substantial practical
> application.").

[If] Claim 6,25,40 have the result of producing results related to "generating units

metadata describing the measurement unit; and associating the units metadata with the

column of the database table" however the claim[s] do not specify [a]: satisfying proper

condition[s]; [b] that the result neither stored nor output is displayed to a user or

otherwise used in the real world.

The examiner reviewed the specification page 14-16,18-23, page 26, 0090-0092,

page 27, but was unable to find a practical real-world use of the result (*determining,*

from the associated units metadata, a first measurement unit for the first column

and a second measurement unit for the second column; and converting data

contained in the first column having the first measurement unit into equivalent

data having the second measurement unit).

If the applicant is able to find one and inserts it into the claims provide the location

the element is found in the specification

Claims 7-12,26-31 depend from claim 6,25, is also rejected in the analysis

above.

16.   Regarding claim 13,32,41, 'a computer-implemented method for managing

execution of a query against data in a database table, comprising:

determining whether the query includes a result field associated with a first

measurement unit;

determining whether a column in the database table corresponding to the result

field has units metadata indicating a second measurement unit; and

if so, converting data obtained as query result having the second measurement

unit into equivalent data having the first measurement unit of the result field" is directed

to "abstract idea" because all of the elements in the claim 13,32,41, would reasonably

be interpreted by one of ordinary skill in light of the disclosure page 14-16,18-23, page

26, 0090-0092, page 27-29 as software [merely algorithm], such that the method is

software, per se , is "non-statutory subject matter" [see Interim Guidelines page 55-57]

and *claim 13,32,41* do not have "practical application" because the "final result" by the

claimed invention in the claim 13,32,41 elements particularly "*determining whether a*

column in the database table corresponding to the result field has units metadata

indicating a second measurement unit; and if so, converting data obtained as

query result having the second measurement unit into equivalent data having the

first measurement unit of the result field" is not producing "useful, tangible and

concrete" and therefore, claim 13,32,41 is a non-statutory subject matter [see Interim

Guidelines page 55-57]. The claimed invention is subject to the test of State Street, 149

F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the

claimed invention must produce a *"useful, concrete and tangible result."* The

**Interim Guidelines for Examination of Patent Applications for Patent Subject

Matter Eligibility** states in section IV C. 2 b. (2) (on page 21 in the PDF format):

> The tangible requirement does not necessarily mean that a claim must either be
> tied to a particular machine or apparatus or must operate to change articles or
> materials to a different state or thing. However, the tangible requirement does
> require that the claim must recite more than a § 101 judicial exception, in that the
> process claim must set forth a practical application of that § 101 judicial
> exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ
> at 676-77 (invention ineligible because had "no substantial practical
> application.").

[If] Claim 13,32,41 have the result of producing results related to "generating

units metadata describing the measurement unit; and associating the units metadata

with the column of the database table" however the claim[s] do not specify [a]:

satisfying proper condition[s]; [b] that the result neither stored nor output is displayed to

a user or otherwise used in the real world.

The examiner reviewed the specification page 14-16,18-23, page 26, 0090-0092,

page 27-29, but was unable to find a practical real-world use of the result (*determining*

whether a column in the database table corresponding to the result field has units

metadata indicating a second measurement unit; and if so, converting data

obtained as query result having the second measurement unit into equivalent

data having the first measurement unit of the result field).

If the applicant is able to find one and inserts it into the claims provide the location

the element is found in the specification

Claims 14,33 depend from claim 13,32 is also rejected in the analysis above.

17.   Regarding claim 15,34,42, 'a computer-implemented method for managing

execution of a query against data in a database table, comprising:

determining whether the query includes a result field associated with a first

measurement unit;

determining whether a column in the database table corresponding to the result

field has an associated index using a second measurement unit;

if so, modifying the result field having the first measurement unit into a result field

having the second measurement unit of the associated index; and executing the query

using the modified associated index", is directed to "abstract idea" because all of the

elements in the claim 15,34,42, would reasonably be interpreted by one of ordinary skill

in light of the disclosure page 14-16,18-23, page 26, 0090-0092, page 27-29 as

software [merely algorithm], such that the method is software, per se , is "non-statutory

subject matter" [see Interim Guidelines page 55-57] and *claim 15,34,42* do not have

"practical application" because the "final result" by the claimed invention in the claim

15,34,42 elements particularly "***determining whether a column in the database table***

corresponding to the result field has an associated index using a second

measurement unit; if so, modifying the result field having the first measurement

unit into a result field having the second measurement unit of the associated

index; and executing the query using the modified associated index" is not

producing "useful, tangible and concrete" and therefore, claim 15,34,42 is a non-

statutory subject matter [see Interim Guidelines page 55-57]. The claimed invention is

subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02.

Specifically State Street sets forth that the claimed invention must produce a ***"useful,***

concrete and tangible result." The **Interim Guidelines for Examination of Patent**

Applications for Patent Subject Matter Eligibility states in section IV C. 2 b. (2) (on

page 21 in the PDF format):

> The tangible requirement does not necessarily mean that a claim must either be
> tied to a particular machine or apparatus or must operate to change articles or
> materials to a different state or thing. However, the tangible requirement does
> require that the claim must recite more than a § 101 judicial exception, in that the
> process claim must set forth a practical application of that § 101 judicial
> exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ
> at 676-77 (invention ineligible because had "no substantial practical
> application.").

[If] Claim 15,34,42, have the result of producing results related to "generating

units metadata describing the measurement unit; and associating the units metadata

with the column of the database table" however the claim[s] do not specify [a]:

satisfying proper condition[s]; [b] that the result neither stored nor output is displayed to

a user or otherwise used in the real world.

The examiner reviewed the specification page 14-16,18-23, page 26, 0090-0092,

page 27-29, but was unable to find a practical real-world use of the result (*determining*

whether a column in the database table corresponding to the result field has an

associated index using a second measurement unit; if so, modifying the result

field having the first measurement unit into a result field having the second

measurement unit of the associated index; and executing the query using the

modified associated index).

If the applicant is able to find one and inserts it into the claims provide the location

the element is found in the specification

Claims 16-19,35-38 depend from claim 15,34 is also rejected in the analysis

above

18.   It appears that "*computer-readable instructions*" carried on a "*signal-*

bearing media" as described in the specification at *page 10, I0042, line 10-14*,

"*The latter embodiment specifically includes information downloaded from the*

Internet and other networks. Such signal-bearing media, when carrying

computer-readable instructions that direct the functions of the present invention,

represent embodiments of the present invention" is a non-statutory subject matter.

In accordance with *"Interim Guidelines for Examination of Patent*

Applications for Patent Subject Matter Eligibility", published on 10/26/2005, *signals,*

that carry functional descriptive material such as computer readable medium

executable code or instructions as claimed in claim 20-38 "*does not fall*" within one of

the **four statutory classes** of 35 U.S.C § 101, [see page 55-57, "Interim Guidelines for

Examination of Patent Applications for Patent Subject Matter Eligibility"] and thus

ineligible for patent protection.

"Merely claiming nonfunctional descriptive material stored in a computer-

readable medium does not make the invention eligible for patenting. For example, a

claim directed to a word processing file stored on a disk may satisfy the utility

requirement of 35 U.S.C. 101 since the information stored may have some "real world"

value. However, the mere fact that the claim may satisfy the utility requirement of

35 U.S.C. 101 does not mean that a useful result is achieved under the practical

application requirement. The claimed invention as a whole must produce a "useful,

*concrete and tangible" result to have a practical application", see **MPEP 2106(II)A**.*

In the above analysis, claims 21-24,26-31,33, 35-38 dependent from

independent claim 20,25,32,34 is also rejected.

For "General Analysis for Determining Patent-Eligible Subject Matter", see 101
Interim Guidelines as indicated below:

<<http://www.uspto.gov/web/offices/pac/dapp/ogsheet.html>>

No new matter should be entered

Claim Rejections - 35 USC § 102

19.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or
described in a printed publication in this or a foreign country, before the invention
thereof by the applicant for a patent.

20.   Claims 1-42, are rejected under 35 U.S.C. 102(a) as being anticipated by

Cazemier et al. [hereafter Cazemier], US Patent No. 6609123 published on

August 19, 2003.

21.   As to claim 1,20,39, Cazemier teaches a system which including

'a computer-implemented method for managing storage of data having an associated

measurement unit in a database table' [col 8, line 46-50, line 61-67, col 32, line 57-67

fig 2A,2B, fig 30], Cazemier teaches business layer entities that provides entity-

relationship, including entities, attributes, keys, joins and like for calculations, filters, and

prompts are part of relational database, further Cazemier also suggests measuring

attribute values with respect to value expression between source and target entities as

detailed in col 32, line 57-67, fig 30]

storing the data in a column of the database table, the column having a name

[col 18, line 15-20, line 49-53], Cazemier specifically suggests tables and their respect

column names are identified as detailed in col 18, line 15-20, line 49-53;

generating units metadata describing the measurement unit' [col 47, line 1-12,

col 48, line 9-16], Cazemier specifically teaches metadata repository that generate the

query related information, further query related information often referred to as a

measure data for example as detailed in col 48, line 9-16]

associating the units metadata with the column of the database table"[col 49, line

64-67, col 50, line 1-10, line 20-23], Cazemier specifically suggests columns of the data

tables for example as detailed in col 50, line 1-10 are associated with metadata

attributes and query items as detailed in col 50, line 20-23.

22.   As to claim 2,21, Cazemier disclosed 'wherein generating the units metadata is

done in response to receiving a generation command indicating the column of the

database table and the measurement unit' [col 49, line 39-43]

23.   As to claim 3, 22, Cazemier disclosed 'determining ontological properties

describing cognitive qualities of the column of the database table' [col 14, line 14-16];

and generating ontological metadata describing the ontological properties'

[col 14, line 7-10]

24.   As to claim 4,23, Cazemier disclosed 'adding a rounding factor to the units

metadata indicating decimal places to which values in the column are to be rounded'

[col 20, line 43-51, col 50, line 5-8].

25.   As to claim 5,24, Cazemier disclosed 'wherein the units metadata is stored

separately from the database table' [fig 2A,3].

26.   As to claim 6,13,25,32, 40, Cazemier disclosed A computer-implemented method

for managing execution of a query against data in one or more database tables

[Abstract, fig 2], Cazemier specifically suggests query engine connected to the various

data sources or database;

        determining whether the query requires relating a first column and a second

column having associated units metadata' [col 6, line 62-66, col 12, line 35-37, col 22,

line 17-20, line 28-33, fig 17], 'the first and second columns being included in the one or

more database tables' [fig 17, element 172,174], Cazemier specifically teaches multiple

columns and data tables, particularly, first column and second column corresponds to

Cazemier's column A1 and column A2 from table A as detailed in fig 17;

        determining, from the associated units metadata [col 12, line 42-47, col 13, line

48-51], a first measurement unit for the first column and a second measurement unit for

the second column [col 14, line 7-10, col 47, line 1-12, col 48, line 9-16], Cazemier

specifically teaches metadata repository that generate the query related information,

further query related information often referred to as a measure data for example as

detailed in col 48, line 9-16];

        ' converting data contained in the first column having the first measurement unit

into equivalent data having the second measurement unit' [col 50, line 30-33, line 42-

52].

27.   As to claim 7, 26, Cazemier disclosed 'before converting, determining whether

the first measurement unit can be converted into the second measurement unit' [col 16,

line 32-37].

28.   As to claims 8,14,27, 33,Cazemier disclosed determining a conversion algorithm

for converting the data; and using the conversion algorithm for converting the data'

[col 27, line·61-63].

29.   As to claim 9,28, Cazemier disclosed wherein the query is a SOL query having a

JOIN statement specifying the first and second columns' [col 28, line 16-19, line 29-39].

30.   As to claim 10,29, Cazemier disclosed 'wherein the query is a SOL query having

a WHERE clause specifying the first and second columns' [col 8, line 38-45].

31.   As to claim 11,30, Cazemier disclosed 'receiving a query result for the query,

the query result including data having one of the first and second measurement units'

[fig 30,, col 32, line 51-60],

        ' converting the data returned with the query result into data having the third

measurement unit' [col 32, line 61-67].

32.   As to claim 12,31, Cazemier disclosed 'before converting, determining whether

conversion of data contained in the first column having the first measurement unit into

data having the second measurement unit is enabled; and converting the data only if

the conversion is enabled [col 50, line 30-33, line 42-52].

33.   As to claim 15,34, Cazemier teaches a system which including

'a computer-implemented method for managing execution of a query against

data in a database table' [col 7, line 38-42, col 8, line 12-17], Cazemier specifically

teaches query executed on data sources, data sources being tables, databases indexes

and like as detailed in col 7, line 38-42, col 8, line 12-17

determining whether the query includes a result field associated with a first

measurement unit; [col 16, line 12-19], Cazemier specifically teaches query executed

against tables in the data source for example as detailed in fig 2A particularly data

sources contains tables, furthermore Cazemier suggests aggregate data that

corresponds to result field associated with the measurement;

determining whether a column in the database table corresponding to the result

field has an associated index using a second measurement unit [col 15, line 27-30,

col 16, line 41-50, line 65-67, col 17, line 1-2], Cazemier specifically suggests query

executed on specific references tables and columns from a known model and table

extract object or attribute associated with the table , further Cazemier also suggests

access key ufor each unique index is assigned [col 15, line 27-30], also determines

aggregate data that corresponds to result field from the data table associated with the

measurement;

if so, modifying the result field having the first measurement unit into a result field

having the second measurement unit of the associated index; and executing the query

using the modified associated index' [col 17, line 3-12].

34.   As to claim 16,35, Cazemier disclosed 'receiving a query result for the query

the query result including data having the second measurement unit [fig 30,, col 32, line

51-60],

        converting the data returned with the query result into equivalent data having the

first measurement unit [col 32, line 61-67].

35.   As to claim 17,36, Cazemier disclosed 'determining a conversion algorithm for

converting the data; and using the conversion algorithm for converting the data returned

with the query result into the data having the first measurement unit' [col 27, line 61-63].

36.   As to claim 18, 37, Cazemier disclosed 'if it is determined that the column has

two or more indexes: selecting, as the associated index [col 14, line 21-27], an index

from the two or more indexes requiring less memory space [col 14, line 34-40],

Cazemier particularly suggests remove columns used in index from tableInfo column list

corresponds to saving memory space or less memory space in the data structure.

37.   As to claim 19,38, Cazemier disclosed 'if it is determined that the column has

two or more indexes '[col 14, line 21-27]; ' selecting, as the associated index, an index

from the two or more indexes which is most often used' [col 14, line 51-67].

Conclusion

The prior art made of record

a.   US Patent. No.   6609123

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Srirama Channavajjala whose telephone number is

571-272-4108. The examiner can normally be reached on Monday-Friday from

8:00 AM to 5:30 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Alam, Hosain, T, can be reached on (571) 272-3978. The fax phone

numbers for the organization where the application or proceeding is assigned is

571-273-8300 Information regarding the status of an application may be obtained

from the Patent Application Information Retrieval (PAIR) system. Status information for

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Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free)

sc
Patent Examiner.
October 26, 2006.

SRIRAMA CHANNAVAJJALA
PRIMARY EXAMINER